



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

SW

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,845	07/18/2003	Bing Cheng	130209.492	4761
500	7590	03/04/2005	EXAMINER	
SEED INTELLECTUAL PROPERTY LAW GROUP PLLC			NGUYEN, MATTHEW VAN	
701 FIFTH AVE			ART UNIT	
SUITE 6300			PAPER NUMBER	
SEATTLE, WA 98104-7092			2838	

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/622,845	Applicant(s) CHENG ET AL.	
	Examiner MATTHEW V. NGUYEN	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2004.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-12,24-27 and 29-33 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,3-12,24-27 and 29-33 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/14 and 12/19/03</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2838

1. The Preliminary Amendment filed on 6/29/04 has been entered. Claims 1, 3, 4, 8, 24- 26 and 29-31 have been amended. Claims 2, 13-23, 28 and 34-46 have been canceled.

2. The disclosure should be carefully reviewed and ensure that any and all grammatical, idiomatic, and spelling or other minor errors are corrected

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 5, 7-12, 24-27, 30 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by JP07039014.

With regard to claims 1, 4, 5, 7-12, 24-27, 30 and 31, JP07039014 (i.e., Fig. 1) shows a power system for providing power between a DC device (1) and one of a primary AC device (12) and a secondary AC device (14) and a method thereof comprising a bi-directional power converter (7) including a set of AC terminals (left hand side of the converter), a set of DC terminals (right hand side of the converter) and a number of bridge legs having MOSFET transistors (T1-T6) each coupled to a free-wheeling diode, some of the bridge legs inverting a current when the current is flowing from the set of DC terminals to the set of AC terminals and rectify the current when the current is flowing from the set of AC terminals to the set of DC terminals, a first switch (11) for coupling and

Art Unit: 2838

uncoupling the secondary AC device to and from the set of AC terminals, a second switch (4) for coupling the DC device to the set of DC terminals, the first switch being multi-positional switch for uncoupling the primary AC device from the set of AC terminals when the secondary AC device is coupled to the set of AC terminals and for coupling the primary AC device to the set of AC terminals when the secondary AC device is uncoupled from the set of AC terminals.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over

JP0739014 in view of JP2000232737.

With regard to claim 1, JP07039014 shows a power system for providing power between a DC device (1) and one of a primary AC device (12) and a secondary AC device (14) comprising all the claimed subject matter as discussed in subparagraph 3 above, except for the first switch being a multi-positional relay (it is noted that the switch is, in fact, a multi-positional switch in JP0739014).

JP2000232737 discloses a power supply system (Fig. 1) in which the switch (24) for coupling the AC device to the AC terminals of the converter is a multi-positional relay.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the multi-positional relay (instead of the multi-positional switch) as showed in JP2000232737 into the power system of JP0739014 for the purpose of enhancing the life of the first switch device.

5. Claims 3, 29, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP0739014 in view of Liang (U.S. Pat. No. 6,507,500).

With regard to claims 3, 29, 32 and 33, JP07039014 shows a power system for providing power between a DC device (1) and one of a primary AC device (12) and a secondary AC device (14) and a method thereof comprising all the claimed subject matter as discussed above in subparagraph 3, except for the boosting circuit comprising a capacitor, an inductor and a diode coupled with at least one switch of at least one of the bridge legs.

Liang (Fig. 19) discloses a power supply system in which a boosting circuit having a capacitor (Cb), an inductor (La) and a diode (D4) coupled to the one switch (Q2) of the bridge circuit (Q1, Q2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the boosting circuit as shown in Liang into the power supply system of JP0739014 for the purpose of increasing the regulated power voltage to a needed level from the DC device to the power converter.

Art Unit: 2838

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Merritt et al. (U.S. Pat. No. 5,705,902) and Henze (U.S. Pat. No. 5,926,004) also disclose power supply systems for an electric vehicles, each of which comprises substantial elements as recited in the claims of the instant application.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew V. Nguyen whose telephone number is (571) 272-2081.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2800.

Matthew V. Nguyen
MATTHEW V. NGUYEN
PRIMARY EXAMINER